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Physician Fee Levels: Medicare versus Canada

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ABSTRACT

Objective: To compare Medicare and Canadian fee levels.

Data Sources: Fee schedules of Medicare and Canadian provinces.

Study Selection: The four largest Canadian provinces, which together encompass 83 percent of the Canadian population.

Data Extraction: We identified the provincial codes that are comparable to 124 CPT codes, which represent 63 percent of Medicare physician expenditures.

Data Synthesis: Canadian fees were adjusted for differences in purchasing power, practice expenses, global fee periods, and other relevant aspects of fee structures. Indices of relative fees were created by type of service and for all services. On average, Canadian fees are 59 percent of Medicare fees. Canadian fees are 60 percent of Medicare's for evaluation and management services, 53 percent for procedures, and 73 percent for imaging. The fee differences are much smaller for office visits than for hospital visits. Fees are most similar for advanced imaging and most different for orthopedic procedures.

Conclusions: Although Medicare physician fees are lower than the fees of U.S. private insurers, they are higher than fees in Canada. In the context of the current U.S. health care system, lowering Medicare physician fees to Canadian levels could jeopardize access to care by Medicare beneficiaries. If a system were introduced into the United States, however, under which all payers faced the same fee schedule, Canadian fees could prove instructive. Despite the much lower fees, the aggregate supply of physicians in Canada is not measurably lower than that in the United States.

INTRODUCTION

The new Medicare fee schedule, a major reform of physician payment in the United States, has accomplished two goals. First, by incorporating a resource-based relative value scale (RBRVS), it partially corrects historical inequities in payment for procedure and cognitive services. Second, by reducing these inequities, it focuses debates over Medicare fees on the overall generosity of payments, both now and in the future. Although the relative values may be revised and the extent of geographic equity is sometimes questioned, it is the overall fee levels and how they are adjusted over time that is likely to be the single most important issue faced under the Medicare fee schedule.

Thus far, assessment of the appropriateness of Medicare payment rates has been confined to comparisons with rates paid by private insurers in the U.S.[1] Since private rates are higher, the comparison raises concerns that the elderly's access to care could be impaired if physicians refuse to treat Medicare enrollees in preference to patients covered by private insurance. The experience of the Medicaid program, whose rates are substantially lower than private insurance rates, is an example of how low physician fees can restrict access to care within the U.S. health care system.[2]

However, fees under private insurance are not the only reasonable source of comparison. Physician fees in other countries may be just as appropriate a "benchmark."

Canada is an obvious source for comparison for several reasons beyond its geographic proximity to the U.S. First, physicians in both countries are generally paid on a fee-for-service basis. Second, Canadian fees are established through provincial fee schedules, a process analogous to the publicly determined Medicare fees. Third, the Canadian health care system has been offered, by some, as a solution to the problems of the U.S. system. Finally, Canadian fees are established in a single-payer context and, as such, provide a useful contrast to Medicare, which is forced to operate in a market with private insurers. In this sense, Canadian fees suggest what U.S. fees might be under a system in which all payers adhered to the same rate schedule.

In spite of these reasons, few Canadian-U.S. comparisons of physician fees have been made. The present study fills a void by comparing the physician fees paid by Medicare to those paid by Canadian provinces. In addition to comparing physician fees in the aggregate, we compare fees by type of service.

One of the few contributions in this area is by Fuchs and Hahn, who compared fee levels in the two countries.[3] Beyond the Medicare focus, the methods employed in this study extends work by Fuchs and Hahn in two respects. First, we use fees from the four largest Canadian provinces, whereas Fuchs and Hahn used fees from a single small province (Manitoba) adjusted to represent all Canada. Second, our U.S. fees are consistently derived from a single source, the Medicare fee schedule. Fuchs and Hahn combined data from Health Insurance Association of America and Blue Shield plans in Iowa and California and treated this as representative of the country as a whole. In light of the weakness of their underlying fee data and given the introduction of the Medicare fee schedule, the issue of relative fees across the two countries needs to be revisited.

METHODS

To compare fees, we developed indices that are weighted averages of fees in Canadian relative to those paid under Medicare. Although our primary objective is aggregate comparisons of relative fees, we also compare fees disaggregated by type of service. For this we need to define the unit of Medicare services, select services, and ensure comparability of Canadian and

Medicare fees. Ensuring comparability involves addressing differences in coding systems, payment rules, and economic conditions.

Our basic unit of observation is the Common Procedural Terminology (CPT) code. Although CPT codes are used by most payers in the U.S., each Canadian province has its own coding system. Because of the difficulty of identifying Canadian provincial codes that are equivalent to CPT codes, it was not feasible to work with all the CPT codes and all the provinces. We therefore focused on fees in the four largest provinces, which together have 83 percent of the Canadian population. In order of population size, they are Ontario, Quebec, British Columbia (B.C.), and Alberta.

Selection of CPT codes and Construction of Index

We classified CPTs by type of service to help ensure that the selected CPTs were representative of a wide range of services and to allow us to compare fees at a somewhat disaggregated level. In particular, we employed a type-of-service classification system devised by Berenson and Holahan.[3] The system divides physician services into six (major) categories and 23 subcategories.

Evaluation and management services is the first category. Its subcategories are office visits, hospital visits, emergency room services, home and nursing home visits, consultations, and specialist evaluation and management services. The last subcategory in this group includes services provided by ophthalmologists, psychiatrists, pathologists, and allergists.

Procedures, the second category, includes major procedures (subdivided into cardiovascular, orthopedic, and other), ambulatory procedures (subdivided into eye and other), and minor procedures (subdivided into endoscopic, oncology procedures, dialysis services, and other). Imaging, the third category, is divided into standard imaging (routine x-rays and nuclear medicine), advanced imaging (CT scans and magnetic resonance imaging), sonographic imaging, and imaging procedures (largely cardiac catheterization). The remaining three categories are tests (subdivided into laboratory and other), anesthesiology services, and other services.

Of the Berenson and Holahan groupings, three categories and three subcategories were dropped for this analysis. Anesthesiology services were dropped, because in some fee schedules payment varies by the duration of the procedure, making pricing difficult. Laboratory tests and other tests, and "other services" were dropped because of the difficulty of identifying equivalent Canadian codes. Oncology services were dropped because they are often included in Canadian global hospital budgets and cannot, therefore, be separately priced. Dialysis services were dropped because of problematic Medicare data on volume. This left 17 subcategories in three categories.

Within the procedure and imaging subcategories, we selected the eight CPT codes with the greatest share of Medicare "expenditures" within each type of service. (These expenditure shares also serve as weights in the index, as noted below.) A CPT code's Medicare expenditure was calculated as its volume in 1989 times its relative value units (RVUs) in the new Medicare Fee Schedule. A code's expenditure divided by the expenditure for all services yields the code's expenditure share. CPT codes with high volume are more likely to be represented than codes with low volume, and CPT codes with high fees (and RVUs) are more likely to be represented than codes with low fees. One might be concerned that our selection procedure is biased toward selecting CPT codes with high Medicare fees (and RVUs). To test this, we replaced Medicare fees with Ontario fees in calculating expenditure shares. Virtually the same CPT codes would be selected under the two methods.

Within the other subcategories (i.e., evaluation and management), we selected CPT codes by group: the 10 codes for office visits, the 6 codes for hospital visits, the 5 codes for emergency room visits, the 3 codes for subsequent nursing facility care visits and the 3 codes for rest home visits for established patients, the 4 codes for eye exams and the 2 codes for psychotherapy, and the 5 codes for office consultations.

The CPT codes incorporated in this index represent 63 percent of the RVUs in these 17 subcategories. Within each of the three categories, this expenditure share is 83 percent for evaluation and management services, 43 percent for procedures, and 35 percent for imaging (Table 2). The expenditure share within subcategories ranges from about 90 percent for several evaluation and management subcategories to about 20 percent for ambulatory and minor procedures (Table 3). In general, as the number of potential CPTs increases and their diversity grows, the share of RVUs accounted for by the index CPTs tends to fall.

To compare Canadian and Medicare fees, we used an index based on a fixed set of services (i.e., Laspeyres index). This widely used index form is the basis of, for instance, the U.S. Consumer Price Index. We first calculated an index for each type-of-service subcategory. This index is a weighted average of Canadian fees relative to Medicare fees for selected codes in each type subcategory. For cardiovascular procedures, for instance, this involved averaging relative fees for eight codes. Each relative fee was weighted by its Medicare expenditure share within its subcategory, the same variable used to select the codes. Our composite index across all 17 subcategories was also a Laspeyres index. This index is the weighted average of each of the individual Laspeyres indices, where the weights are the Medicare expenditure shares for the subcategory.

Creating Comparable Fees

The fees that we analyzed were those in effect in January 1992, obtained from published fee schedules.[5-10] In the case of Medicare, we assumed full implementation of the fee schedule. Medicare fees were treated as the product of the total RVU for the code and the conversion factor of $31.001 (Federal Register). No geographic adjustment was made. Canadian fees, as they appear in the schedules, do not vary geographically. And the geographic practice cost index (GPCI) of the Medicare fee schedule does not enter the calculation when a national perspective is used. For each code, the Canadian fee was calculated as the mean of the four provincial fees, weighted by their 1990 population.[11]

Canadian codes comparable to the Medicare codes were identified by the physician member of the analysis team (S.J.K.). Although the coding systems differ, the practice of medicine is very similar in the two countries, making the task of identifying comparable Canadian codes relatively straightforward. Ambiguities typically were resolved through phone conversations with the relevant Ministry of Health. In the remaining cases, we selected provincial codes that, if anything, made Canadian fees appear high. For instance, Quebec has 3 codes for a colonoscopy, depending on whether it reaches the descending, transverse, or ascending colon, whereas CPT has one code (45378) regardless of the distance. We used the Quebec code for a colonoscopy of the ascending colon, the most expensive. Only 2 CPT codes (both in the minor procedure category) out of 126 had to be dropped because of difficulty in identifying comparable codes.

Even after basic medical comparability had been established, several issues regarding comparability in payment remained. Foremost among these related to the period of the global surgical fees. Under the Medicare fee schedule, fees for major surgeries cover visits only 1 day prior to surgery but 90 days following surgery. Provincial schedules usually have longer preoperative periods but shorter postoperative periods: Ontario has a postoperative period of 14 days; Quebec, 0 days (out of the hospital); B. C., 42 days; and Alberta, 90 days. Based in part on a survey by the Physician Payment Review Commission (PPRC),[12] we judged that Medicare's 90-day postoperative period would capture two more offices visits than Ontario, three more visits than Quebec, and one more visit than B.C. To make Canadian surgical fees comparable to Medicare fees, we identified the fee for these office visits to general surgeons and added it to the Canadian fees for major surgeries.

For imaging CPT codes, we used fees for the professional component, except for Alberta. For standard imaging and sonography, Alberta publishes only global fees. Therefore, its global fees were adjusted by multiplying them by the ratio of Medicare professional component to global fee. Alberta publishes no physician fees for advanced imaging, because it pays only hospitals for these services. Thus, no comparison can be made.

In the provincial schedules, evaluation and management fees are nominally specialty-based. This relates to a major difference in physicians in the U.S. and Canada: half of Canadian physicians are GPs,[13] whereas only 14 percent of U.S. physicians are GP/FPs.[14] Therefore, Canadian fees for specialists are more relevant than those for GPs because of the predominance of specialists in the U.S. In Canadian fee schedules, fees for internists are usually as high as or higher than for other specialists. Therefore, we used the fees of internists, except where another specialty was clearly more relevant (e.g., ophthalmologists for eye exams).

Net Income Equivalence

By how much would Medicare fees drop if Medicare adopted the Canadian fee level. assuming that Medicare recognized the differences in currency and practice expense?

Canadian fees are, of course, expressed in Canadian dollars. These fees could be converted to U. S. dollars using exchange rate. However, foreign exchange rates are heavily influenced by extraneous factors, such as speculation and interest rates differentials, which cause capital funds to shift among nations. These factors can result in substantial year-to-year changes in exchange rates. In addition, the prices of goods that are traded internationally have a direct impact on exchange rates, whereas the prices of other goods (e.g., housing) do not.

Hence, cross-national comparisons of health care spending adjust for differences in the value of currencies using the purchasing power parity.[3,15,16] In 1990 one U.S. dollar had the purchasing power of 1.31 Canadian dollars.[17] Suppose that Canadian physicians were paid in U.S. dollars, which they used to pay for practice expense as well as personal consumption items, such as housing in Canada. They could receive only one U.S. dollar for every 1.31 Canadian dollars they now receive and still afford the same practice expenses and standard of living. Hence, Canadian fees must be divided by 1.31 to be translated into U.S. dollar equivalents.

What is relevant to physician income, however, is not their fees but their fees net of practice expenses. We wished to adjust fees, therefore, so that they represent the same net income per service in the two countries. Canadian physicians have substantially lower malpractice expenses[18] than U.S. physicians and lower administrative expenses.[19,20] Canadian physicians had expenses that were 38.7 percent of gross income in 1987, for example, the latest year such data are available.[21] The analogous U.S. figure for 1987 is 45.8 percent.[22]

In other words, physicians retain as net income 54.2 percent of their revenue in the U.S. but 61.3 percent of their revenue in Canada. For the purposes of this adjustment, we assume that practice expenses as a percentage of a fee are the same for all fees. In reality, the share of a fee that is retained as net income varies across services. If net income per service for physicians were equated across in the two countries, this would mean that 54.2 percent of U. S. fees would equal 61.3 percent of Canadian fees. Therefore, to make a valid comparison between the two countries, Canadian fees need to be adjusted upward to reflect the higher practice expenses in the U. S. This involves dividing Canadian fees by .884 (54.2/61.3).

Thus, we divided Canadian fees by 1.31 to adjust for differences in purchasing power and by .884 to adjust for practice expenses (1.31 * .884 = 1.158).

RESULTS

Table 1 presents Canadian and Medicare fees for selected CPT codes. We use coronary artery bypass (CABG) with three grafts to explain the construction underlying the figures in this table. The three-graft CABG has a weight of .22 (not in table): that is, it has 22 percent of the Medicare expenditures for the 8 codes used for the cardiovascular index. In January 1992 the average fee across the four largest provinces was $1,278 (not in the table). This figure, which is in Canadian dollars, includes postoperative office visits that are covered by the global fee under Medicare. After adjustment for the lower purchasing power of the Canadian dollar and lower practice expenses, the Canadian fee is $1,129 (U.S. dollars). In contrast, under full implementation of its fee schedule, Medicare will be paying $2,225 for the same service. In sum, Canada is paying about half as much as Medicare for a three-graft CABG (0.51 in the table).

The fee for removal of a cataract and insertion of a lens is worth special mention. In 1988, deeming this fee "overpriced," Medicare lowered the fee for this procedure. It fee was lowered again in 1990 and 1991, and yet again under the Medicare fee schedule in 1992. After this process, Canada is still paying less than half as much as Medicare (0.47 in the table).

Table 2 presents the index for all services for each province as well as the index by category. Overall, Canadian fees are 59 percent of Medicare's, adjusting for differences in currency, practice expense, global fee periods, and other aspects of the fee structure. Ontario, B.C., and Alberta each have fees that are about 60 percent of Medicare's, whereas Quebec has fees that are less than half of Medicare's. Quebec has the lowest fees within each of the three categories.

Canadian fees are 73 percent of Medicare fees for imaging and 53 percent of Medicare fees for procedures. Canadian fees for evaluation and management services are 60 percent of Medicare fees, approximately at the overall average. The order by type of service is the same for each province. For instance, the ratio of Quebec to Medicare fees is highest for imaging (51 percent), lowest for procedures (42 percent), and in the middle for evaluation and management services (48 percent).

Table 3 presents these results by subcategories. Within each category, there is a range of indices across subcategories. Within evaluation and management services, for example, Canadian fees are highest for office visits and consultations (76 and 73 percent of Medicare fees, respectively), and lowest for ER services and nursing home and home health visits (35 and 39 percent of Medicare fees, respectively). Within procedures, Canadian fees are highest for minor procedures and endoscopy procedures (63 percent of Medicare fees for both categories). Canadian fees for orthopedic procedures are 37 percent of Medicare fees, by far the lowest percentage for a procedure subcategory. Within imaging, fees are highest for advanced imaging (CT scan and MRIs) and sonography (95 percent and 84 percent of Medicare fees, respectively). Fees are lowest for standard imaging and imaging procedures (primarily cardiac catheterization) (about 60 percent of Medicare fees for both groups.)

DISCUSSION

Overall Fee Levels

Overall, Canadian fees are 59 percent of Medicare fees. Although Canadian fee levels are high enough to attract physicians within Canada (as discussed below), decreasing Medicare fees to Canadian levels might prompt U.S. physicians to refuse to treat Medicare beneficiaries in favor of privately insured patients. The experience of Medicaid illustrates the potential problem for Medicare. Medicaid fees are, on average, 67 percent of Medicare fees,[2] and U.S. private insurance fees are well above (150 percent of) Medicare fees.[1] This creates an environment in which access to care for Medicaid beneficiaries is threatened.[23] Thus, Medicare's ability to control increases in fees is constrained by the reimbursement behavior of other payers.

While fees as low as those in Canada may not be a realistic option for Medicare, they can provide general guidance for broader payment reforms. In particular, Canadian fees suggest that fees well below those currently paid in the U. S. might be feasible. For example, if the U.S. moved to a system under which all physician fees were paid according to the same rate schedule (i.e., an all-payer system), it would no longer be clear that fees should reflect those now paid by private insurers. Congressman Dan Rostenkowski has introduced legislation to move toward such an all-payer system for the nation, and several states have mandated studies of it.[1] With all payers governed by the same set of fees, the access risks faced by a single payer with low fees would be removed. Policymakers might decide to set fees well below the current private market--possible using Medicare levels as the guide. The question then becomes, not whether Medicare beneficiaries would risk reduced access compared to holders of private insurance, but whether lowering U. S. fee levels would shrink the overall supply of physician services to unacceptable levels.

There is really no way to answer this question with certainty. However, despite having much lower fees, Canada has about the same physician supply as the U.S.: 2.2 physicians per 1000 population in Canada versus 2.3 in the U.S.[15] Indeed, many Canadian analysts and policymakers believe that Canada has an oversupply of physicians.[24] In January 1992, the provincial deputy ministers--the key health policymakers in Canada--decided to cut medical school enrollment.[25] In sum, Canada's supply of physicians does not appear to be inadequate.

Would lower fees save money, or would physician service volume and intensity increase enough to wipe out any savings? The possibility that lower fees might induce this type of response was raised when the Medicare conversion factor was set in late 1991. It was assumed that a 10 percent decrease in fees would be offset by a 5 percent increase in the volume and intensity of services. Even if the volume and intensity of all physicians services increased by this extent, lowering the overall levels of physician fees under an all-payer system would still be a promising cost containment option.

Levels by Type of Service

Here we compare differences in the Canada-Medicare ratio of fees by type of service. Although neither Canadian nor Medicare fees can be taken as the "gold standard," a comparison by type of service can yield insights into fees under both systems.

Fuchs and Hahn found a substantial difference between the Canada-U. S. fee ratio for evaluation and management (55 percent) and the ratio for procedures (30 percent).[3] These ratios suggest that U.S. fees are 1.8 times higher relative to Canada for evaluation and management than for procedures. Prior to the fee schedule, Medicare's fees for procedures were more generous than their fees for evaluation and management in comparison to private insurers.[26] This suggests that Medicare fees were even more skewed toward procedures relative to Canada than were private insurers' fees. Our data indicate (Table 2) that the new fee schedule has substantially shrunk this difference for Medicare. The Canada-Medicare fee ratio of 60 percent for evaluation and management is 1.13 times higher than the ratio of 53 percent for procedures. PPRC has suggested changing the calculation of practice expense in such a way that evaluation and management fees would increase further and procedure fees would decrease further.[27] This would probably make the evaluation and management-procedure ratios for Medicare and Canada even more similar.

The relative values of physician services in Canada are not resource-based but rather reflect charge-based payments established prior to 1968. Modifications in the relative values have primarily been the responsibility of physician organizations, with varying levels of provincial government oversight. Periodic fee increases have been disproportionately distributed to the services of general practitioners. Thus, the relative value of services provided by general practitioners has increased over time, which has partially corrected perceived historical inequities.

Our results suggest that this political negotiating process between physicians has resulted in a distribution of relative values across cognitive and procedural services similar to that of RVRBS. Canadian physicians have shown some interest in the resource-based relative value scale as an improvement over their current fee schedules. To the extent that their concern is about overpaying for procedures relative to evaluation and management,[28] however, the RBRVS is unlikely to help the provinces, because it still results in more generous payments for procedures than the current Canadian schedules (albeit less so than did the previous Medicare system).

Within evaluation and management services, the relative differences between office and hospital visit fees in the two systems are striking. Relative to Medicare, Canada pays more for office visits than hospital visits, a pattern that holds in each of the four provinces. The reason is that the Medicare fee schedule is resource based as pertains to the work component only, not the overhead costs and malpractice components. When the RBRVS was established, setting RVUs for office and hospital visits entailed allocating office expenses between the two activities. The provinces have implicitly allocated those expenses differently than Medicare has, assuming that fewer practice resources are used in hospital than in office visits. The Physician Payment Review Commission has proposed a resource-based allocation of practice expenses, which would increase office visit fees and decrease hospital visit fees.[29] This would make the Canada-Medicare ratios more similar.

Still within evaluation and management services, Canadian consultation fees are high relative to Medicare's. Conversely, Canadian fees for visits in emergency rooms, nursing homes, and rest homes are low relative to Medicare's. As in the case of hospital visits, Medicare's high fees for such visits may reflect an overly generous allocation of practice expenses. Medicare may need to revisit this issue.

Within procedures, orthopedic procedures stand out as a case where the Medicare fee schedule has produced higher fees relative to Canada than other procedures. Canadian fees for orthopedic procedures are 37 percent of Medicare's, whereas they are 53 percent for procedures in general. Although it is possible that Canadian fees are "too low" to ensure access for orthopedic procedures, this is unlikely for two reasons. First, the provinces have single-payer systems and these fees are for the key services provided by orthopedic surgeons. If these fees were "too low," shortages of orthopedic surgeons could develop. In Canada, shortage concerns tend to focus on geography, not specialty. However, shortages by specialty have been identified,[24] and orthopedic surgery is not among them. Second, the pattern holds across provinces, reducing the probability that a single province "miscalculated."

Within imaging, fees for advanced imaging and sonography are high in Canada relative to Medicare. Because these high-tech services have diffused more slowly in Canada, their fees have a smaller impact on budgets. Alternatively, Canada may pay relatively more for these services in order to avoid undersupply in light of the constraints already placed on the numbers of machines. The ratios here suggest that Canadian provinces might reevaluate whether their fees for advanced imaging and sonography are too high, and Medicare, whether their fees are too low.

Limitations and Caveats

We adjusted our comparisons for two general factors: differences in purchasing power and practice expenses. Are there factors that could account for our results other than real fee level differences? One possible objection is that GPs/FPs are much more common in Canada and that we are really identifying skill differences between Medicare and Canadian physicians, rather than fee differences. This is not the case, because we took care in matching the codes to take specialty into account. For evaluation and management fees, for example, we matched general internists' fees in the two countries.

Another possible limitation is that, even though we have fees from the four provinces with five-sixths of the Canadian population, they are not representative of the other six provinces, which could pay more generously. Health and Welfare Canada has computed fees indices for the provinces, and finds that the excluded provinces all have fee levels below Ontario, B.C., and Alberta.[30] We estimated the change if these indices were incorporated into our index, and found that the ratio of Canadian fees to Medicare fees would fall very slightly--.3 of a percentage point.

Another potential problem in comparing U.S. and Canadian physician fees is the high educational debt of American physicians: Among U.S. physicians with debts for their medical education, the average debt in 1990 was $46,224.[31] We consider an extreme example to provide a sense of the impact this might have on the fee differential we estimated. Assume that Canadian physicians had no debt and all U.S. physicians (regardless of cohort) had financed this average debt through loans carrying a 10 percent interest rate over a 35-year career. The repayment would amount to about $5,000 per year, or about 1.5 percent of current average gross practice revenues.[14] Obviously, earlier cohorts of physicians have substantially lower educational costs than are reflected in this example. On the assumption of no differences in rates of service provision, leaving out educational debt costs overstates the fee differential between the two countries by at most 1.5 percent.

Several other caveats are worthy of mention. First, the fee received by the physician may be higher than the Medicare fee schedule amount because of balance billing, which does not exist in Canada. However, in 1992 physicians who chose to balance bill could only charge 14 percent above the fee schedule. If assignment rates stay at 1991 levels, only about 20 percent of Medicare charges would receive this 14 percent add-on. Therefore, the total fee that the average physician receives could be only 2 to 3 percent above the Medicare fee schedule. This may cause us to overestimate the Canada-Medicare fee differential modestly--an overestimate that is likely to be reduced over time, since balance billing is being increasingly restricted under Medicare.

Second, unlike Medicare, certain hospital-based radiology services in Canada are reimbursed through global hospital budgets and are not, therefore, reflected in the fee levels. The affected services vary by province: Alberta pays for all radiology services delivered in hospitals through the global budget, Ontario and B. C. roll in such services for inpatients but not for patients in outpatient departments, and Quebec rolls in services for neither group. Since hospitals pay physicians directly, their payment rates are not directly captured by our index. To the extent that those rates are similar to rates paid directly by the provinces, our index will reflect them accurately. There is no a priori reason to expect them to be substantially higher or lower.

Conclusion

The ability of the Canadian provinces to keep fees below those in the United States is a reason for Canada's cost advantage. Canadians have not resorted widely to policies such as utilization review that can limit clinical autonomy. Instead, Canadians have limited spending growth, in part, by restraining fees to a far greater extent than has yet appeared possible in the U.S.

The multiple-payer system operating in this country makes it difficult for any individual payer to limit fees without running the risk of adversely affecting its subscribers' access. This has forced many U.S. payers to seek controls over volume as the only available means of containing outlays. Many physicians find these volume controls overly intrusive. However, with the charges for each service as high as they are in the United States, payers have a strong incentive to confront the physician community, and have turned to volume controls as a way to do it. Comparing Medicare physician fees with Canada's physician fees suggests that there may be another alternative--lowering physician fees in return for maintaining greater physician discretion over treatment decisions. Ultimately, the potential tradeoff between reduced fees (or fee growth) and utilization review policies could become a valuable focus of U.S. physician-insurer negotiation on an all-payer system.

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Table 1
Canadian and Medicare Fees for Selected CPT Codes By Type-of-Service Subcategories
(as of January 1992)

Type of Service (TOS)[a]	CPT Code	Description	Fee		Canadian-to-Medicare Ratio
			Adjusted Canadian[b]	Unadjusted Medicare	
Evaluation and Management Services					
Office Visits	99213	Office Visit, Estab Pat	25.27	31.00	0.82
Hospital Visits	99232	Subsequent Hospital Care	14.97	44.95	0.33
Emergency Room Services	99283	Emergency Dept Visit	22.02	46.19	0.48
Nursing Home and Home Health	99332	Rest Home Visit, Estab Pat	14.72	39.06	0.38
Specialty-Specific E&M	92014	Eye Exam, Estab Pat	32.74	53.01	0.62
Consultations	99243	Office Consultation	56.70	80.91	0.70
Procedures					
Cardiovascular Procedures	33512	CABG, Three Grafts	1129.39	2225.25	0.51
Orthopedic Procedures	27447	Total Knee Replacement	626.45	1815.73	0.35
Other Major Procedures	52601	TURP	370.43	801.69	0.46
Eye Procedures	66984	Remove Cataract, Insert Lens	439.57	940.57	0.47
Other Ambulatory Procedures	49505	Inguinal Hernia	252.70	335.43	0.75
Minor Procedures	17000	Destruction One Facial Lesion	28.78	35.65	0.81
Endoscopy Procedures	45378	Colonoscopy	156.84	262.89	0.60
Imaging					
Standard Imaging	71020	Chest X-Ray, 2 Views	6.11	10.54	0.58
Advanced Imaging	70450	CT Scan, Head w/o Contrast	32.24	42.16	0.76
Sonography	93307	Echocardiography	45.40	54.25	0.84
Imaging/Procedure	93547	L H Catheter, Cor Angiography	271.24	434.01	0.62

[a] Within each evaluation and management subcategory, the middle-level code is shown. Within other subcategories, the code with the largest Medicare expenditure is shown.

[b] Canadian fees are the average of the fees (weighted by population) of the four largest provinces. Canadian fees have been adjusted for differences in currency (through purchasing power parity), practice expense, global fee periods, and other aspects of the fee structures.

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Table 2

Physician Fee Indices by Major Type-of-Service Categories and by Province (as of January 1992)

Type of Service (TOS)[a]	Medicare Share within TOS	Canadian-to-Medicare-Fee Ratio[b]				
		Ontario	Quebec	British Columbia	Alberta	Canada
Evaluation and Management Services	83%	0.665	0.483	0.596	0.618	0.595
Procedures	43%	0.578	0.415	0.516	0.584	0.528
Imaging	35%	0.843	0.511	0.793	0.799	0.729
Overall	63%	0.658	0.463	0.594	0.629	0.589

[a] Medicare share is the ratio of the expenditures of the codes used in the index to the expenditures of all the codes in the TOS category.

[b] Canadian fees are the average of the fees (weighted by population) of the four largest provinces. Canadian fees have been adjusted for differences in currency (through purchasing power parity), practice expense, global fee periods, and other aspects of the fee structures.

Table 3

Physician Fee Indices by Type-of-Service Subcategories and by Province
(as of January 1992)

Type of Service (TOS)[a]	Medicare Share within TOS	Canadian-to-Medicare-Fee Ratio[b]				
		Ontario	Quebec	British Columbia	Alberta	Canada
Evaluation and Management Services						
Office Visits	91%	0.941	0.570	0.697	0.661	0.762
Hospital Visits	84%	0.404	0.385	0.406	0.491	0.408
Emergency Room Services	91%	0.305	0.315	0.572	0.374	0.354
Nursing Home and Home Health	63%	0.381	0 272	0.414	0.748	0.394
Specialty-Specific E&M	52%	0.689	0.548	0.708	0.784	0.659
Consultations	94%	0.781	0.599	0.814	0.736	0.725
Procedures						
Cardiovascular Procedures	40%	0.545	0.399	0.540	0.651	0.512
Orthopedic Procedures	63%	0.395	0.338	0.389	0.362	0.373
Other Major Procedures	32%	0.582	0.452	0.509	0.545	0.528
Eye Procedures	63%	0.477	0.396	0.555	0.521	0.468
Other Ambulatory Procedures	20%	0.517	0.432	0.415	0.516	0.542
Minor Procedures	19%	0.786	0.414	0.517	0.774	0.633
Endoscopy Procedures	57%	0.737	0.465	0.614	0.676	0.630
Imaging						
Standard Imaging	31%	0.693	0.441	0.668	0.755	0.619
Advanced Imaging	36%	1.046	0.768	1.064	n.a.	0.953
Sonography	31%	1.069	0.509	0.895	0.781	0.841
Imaging/Procedure	51%	0.688	0.374	0.652	0.750	0.594

[a] Medicare share is the ratio of the expenditures of the codes used in the index to the expenditures of all the codes in the TOS subcategory.

[b] Canadian fees are the average of the fees (weighted by population) of the four largest provinces. Canadian fees have been adjusted for differences in currency (through purchasing power parity), practice expense, global fee periods, and other aspects of the fee structures.

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